



# Water Quality NewsFlash

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## **Coastal Bacteria Contamination – Studies identify sources, question health reports**

– Recently published studies from UC Irvine provide interesting information on bacteria contamination at Orange County beaches. Using a mass balance approach, the results of one study implicated the Santa Ana River and Talbert Marsh as significant sources of shoreline total coliform bacteria, particularly during nighttime ebb tides. *Escherichia coli* and *Enterococci* bacteria showed more complex patterns and have additional sources including leaking sewer pipes. Coastal currents can carry the bacteria as far as five kilometers up the coast. Bird droppings are apparently a significant source of bacteria in Talbert Marsh. The bacteria apparently regrow within the Marsh and in river sediments.

A second paper on public mis-notification of coastal water quality concluded that beach postings were frequently in error. The errors result from the relative infrequency of testing and delays in obtaining analytical results. The study noted that the amount of *Enterococci* bacteria at a particular surf sampling site on Huntington Beach were “generally more correlated with the maximum daily tide range, than with the concentration of bacteria in the last sample.” The paper proposes techniques to improve posting accuracy.

The third paper focuses on the Talbert watershed. It concludes that greater than 99% of the bacteria loading takes place during wet weather and that dry weather diversion efforts therefore have limited benefits. The paper also notes that “fecal indicator bacteria in storm runoff originate from the erosion of contaminated sediments in drainage channels or storm sewers.” Press release: [http://www.eng.uci.edu/news\\_events/current/?page=2004\\_03\\_24](http://www.eng.uci.edu/news_events/current/?page=2004_03_24) Contact [fkrieger@msn.com](mailto:fkrieger@msn.com) for copies.

**Retrofit Pilot Studies – Caltrans reaches court agreement** – In response to lawsuits filed in 1993, Caltrans initiated a major testing program to determine which technologies can effectively remove pollutants carried in runoff from existing roadways. The studies have been completed and the lawsuits are being settled. A future issue of the *NewsFlash* will have more information including links to the studies. Article: <http://www.latimes.com/news/local/la-me-caltrans8apr08,1,7265409.story?coll=>

**Global warming – Adding iron to the ocean as possible solution** – Iron, not nitrogen or phosphorous, is the limiting nutrient in the ocean. A research project currently underway will fertilize a section of ocean with iron sulfate, which in turn will result in increased growth of phytoplankton. As they grow, the phytoplankton use carbon dioxide from the atmosphere. The goal of the research is to determine whether a significant portion of the phytoplankton ultimately sink to the ocean floor thus removing much of the carbon dioxide permanently from the atmosphere. <http://www.nature.com/nsu/040119/040119-17.html>

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